

State of Michigan **STRATEGIC HIGHWAY SAFETY PLAN** **2013-2016**



2013-2016
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Dear Traffic Safety Partners:

As governor of the state of Michigan, I am pleased to present the 2013-2016 Michigan Strategic Highway Safety Plan (SHSP). Prepared under the direction of the Governor's Traffic Safety Advisory Commission, the SHSP sets a course to continue reducing traffic crashes, deaths, and injuries.

Input gathered over the past year from the education, enforcement, engineering, and emergency medical services communities has helped shape the latest strategic planning document. Not only does the updated plan continue to build on previous years' success, it also aligns Michigan with the national vision of Toward Zero Deaths.

Since the plan was last updated five years ago, the traffic crash picture has improved in many areas, including a 24 percent reduction in severe injuries and a 16 percent reduction in traffic deaths. Other accomplishments include:

- *26 percent reduction in alcohol-involved fatal and serious injury crashes;*
- *46 percent reduction in truck and bus involved fatalities;*
- *16 percent reduction in lane departure fatalities; and*
- *31 percent reduction in intersection fatalities.*

The SHSP represents a collaborative effort to identify traffic safety issues, develop strategies, and implement best practice countermeasures, utilizing resources at the national, state, and local levels. Michigan's traffic safety community has a long-standing record of working together, across all branches of government and with private sector organizations, to ensure the safety of all roadway users.

The plan continues to foster these long-term relationships so that everyone arrives safely at their destination.

Sincerely,

Rick Snyder
Governor

MISSION:

Improve traffic safety in Michigan by fostering effective communication, coordination, and collaboration among public and private entities.

VISION:

Toward Zero Deaths on Michigan Roadways

GOALS:

*Reduce traffic fatalities from
889 in 2011 to 750 in 2016*

*Reduce serious traffic injuries from
5,706 in 2011 to 4,800 in 2016*

Background

The Governor's Traffic Safety Advisory Commission (GTSAC) was formed by an Executive Order of the Governor in 2002, in part, to serve as the state's major forum for identifying key traffic safety challenges, and developing, promoting, and implementing strategies to address these challenges. The creation of the GTSAC merged the Michigan State Safety Commission and the Michigan Transportation Safety Management System. Membership on the GTSAC consists of the governor (or a designee); the directors (or their designees) of the Departments of Community Health, Education, State, State Police, and Transportation; and Office of Services to the Aging, the executive director of the Office of Highway Safety Planning; as well as three local government representatives.

Originally required in 2003 as part of the SAFETEA-LU Transportation Reauthorization, the Strategic Highway Safety Plan (SHSP) provides a comprehensive framework for reducing highway fatalities and serious injuries on all public roads. In Michigan, the SHSP is developed under the leadership of the GTSAC in a cooperative process with local, state, federal, and private sector safety stakeholders. The SHSP is a data-driven, four-to-five-year comprehensive plan that establishes statewide goals, objectives, and key emphasis areas and integrates the four E's—engineering, education, enforcement, and emergency medical services (EMS).

The purpose of the SHSP is to identify Michigan's key safety needs and guide investment decisions to achieve significant reductions in highway fatalities and serious injuries on all public roads. The SHSP allows all highway safety programs in the state to work together in an effort to align and leverage its resources. It also positions the state and its safety partners to collectively address the state's safety challenges on all public roads.

During the development of the initial SHSP in 2004, traffic safety advocates from the federal, state, and local level came together to assess the current state of traffic safety in Michigan. This process resulted in the establishment of statewide safety goals and the identification of a series of 12 traffic safety emphasis areas. To achieve progress for these goals, an action team was created within each emphasis area, comprised of traffic safety advocates from throughout the state. Each action team developed an action plan specific to its emphasis area. These plans included background information, summaries of key safety issues, and a series of short-term and long-term strategies to improve safety within each emphasis area.



Plan Revisions

In early 2008, the GTSAC commissioned an update of Michigan's SHSP to evaluate progress since the plan's initial development and revise goals and strategies as appropriate based upon crash data trends and the emergence of other traffic safety issues. A regularly scheduled GTSAC meeting was expanded into a day-long SHSP workshop, which brought together the GTSAC commissioners, the chairs of the action teams, and other Michigan traffic safety experts, as well as representatives from the Federal Highway Administration (FHWA), Federal Motor Carrier Safety Administration (FMCSA), and the National Highway Traffic Safety Administration (NHTSA).

As a part of the 2008 SHSP update, several changes to the plan were adopted by the GTSAC on June 26, 2008. This included the elimination of the Work Zone Safety Emphasis Area, which was already being addressed through the efforts of the Michigan Department of Transportation (MDOT). A new Emergency Medical Services Emphasis Area was created, aimed at incorporating this important element into the transportation safety planning process. In addition to these changes, new goals were proposed for the subsequent five-year period based upon crash data trends.

At the April 25, 2011, GTSAC meeting, the commissioners determined that another update was necessary. As a part of this update, the commission requested that each action team provide updates on the goals and strategies for their action plans. This process provided closure to the 2008 SHSP and served as a starting point for updating the plan.

At the onset of this process, progress toward the goals established during the 2008 update was evaluated, both overall, and within each of the emphasis areas. The 2008 SHSP included two specific data-driven safety goals: (1) to reduce traffic fatalities from 1,084 to 850 by 2012; and (2)

to reduce serious traffic injuries from 7,485 to 5,900. There has been significant progress towards each goal as evidenced by the 889 traffic fatalities and 5,706 serious injuries that occurred in 2011.

While some of these improvements are likely due to reductions in travel over this period, the reductions in crashes, injuries, serious injuries, and fatalities all outpaced the decreases in vehicle miles traveled (VMT), indicating that sustained improvements may be possible even as travel rebounds to prior levels.

A more detailed analysis of crash data from 2007 to 2011 was also conducted as a part of the SHSP update. This data-driven approach allowed for an examination of recent trends and the identification of emerging safety issues. The results of this analysis were supplemented by a statewide survey of traffic safety stakeholders, which was conducted in conjunction with the 2012 Michigan Traffic Safety Summit. This survey obtained preliminary feedback as to prospective goals, emphasis areas, and implementation strategies for the revised SHSP. Approximately 200 survey responses were received from a diverse cross-section of safety professionals throughout Michigan.

The results of the crash data analysis and stakeholder surveys were utilized to develop and implement five regional focus groups held in Dearborn, Gaylord, Grand Rapids, Lansing, and Marquette in the spring of 2012. These focus groups allowed for the consideration of unique regional perspectives and illustrated differences in the degree to which various safety concerns affected these regions. Ultimately, consensus-building exercises conducted as a part of these meetings facilitated the development of revised goals and emphasis areas for the 2013-2016 SHSP.

Statewide Statistics	2007	2008	2009	2010	2011	% Change 2007-2011
Crashes	324,174	316,057	290,978	282,075	284,049	-12.4%
Injuries	80,576	74,568	70,931	70,501	71,796	-10.9%
Incapacitating Injuries	7,485	6,725	6,511	5,980	5,706	-23.8%
Fatalities	1,084	980	871	937	889	-18.0%
*Fatality Rate	1.04	0.97	0.91	0.96	0.94	-9.8%
VMT (Billions)	104.60	100.90	95.90	97.60	94.75	-9.4%
Registered Vehicles (Millions)	8.14	8.19	8.15	8.10	8.13	-0.1%
Registered Drivers (Millions)	7.14	7.09	7.07	7.08	7.04	-1.4%
Population (Millions)	10.00	9.95	9.90	9.88	9.88	-1.2%

*Per 100 million VMT

Action Team	2007-2011 Michigan Data	
	Fatalities	% of Total
Impaired Driving	1,787	37.5%
Commercial Motor Vehicle Safety	486	10.2%
Distracted Driving	N/A	N/A
Drivers Age 24 and Younger	1,011	21.2%
Traffic Incident Management	N/A	N/A
Traffic Safety Engineering - Intersection Safety	1,248	26.2%
Traffic Safety Engineering - Lane Departure	2,322	48.8%
Motorcycle Safety	597	12.8%
Occupant Protection	1,088	22.9%
Pedestrian and Bicycle Safety	768	16.1%
Senior Mobility and Safety	941	19.8%
Traffic Records and Information Systems	N/A	N/A

2013-2016 SHSP GOALS

As substantial progress has been made toward the goals from the 2008 SHSP, revised targets were established for 2016. These goals are as follows:

- Reduce traffic fatalities from 889 in 2011 to 750 in 2016
- Reduce serious traffic injuries from 5,706 in 2011 to 4,800 in 2016

EMPHASIS AREAS

In order to facilitate improvements of this magnitude, a well-integrated, comprehensive safety program is required that focuses upon those areas where resources can be most efficiently utilized in reducing the frequency of traffic crashes, injuries, and fatalities.

To this end, the 2013-2016 SHSP is focused on addressing traffic safety issues within four broad emphasis areas.

1. High-risk Behaviors
2. At-risk Road Users
3. Engineering Infrastructure
4. System Administration

Within these emphasis areas, action teams have been created to provide more targeted guidance with respect to area-specific safety issues. Structuring these action teams under the broad umbrella of these four emphasis areas will create efficiencies given the degree of overlap among these teams.

HIGH-RISK BEHAVIORS

Despite continuous efforts that have improved the safety of Michigan roadways, the safety of these facilities is ultimately reliant upon road-user behavior. However, research has shown that the vast majority of crashes are due to errors by these users. Fortunately, many of these errors are ultimately preventable and strategies to encourage the safe behavior of road users are integral to highway safety improvement efforts. At the statewide level, these implementation strategies will be guided by three action teams:

- Distracted Driving
- Impaired Driving
- Occupant Protection

AT-RISK ROAD USERS

Prior research and crash statistics illustrate that there are specific groups of road users who are overrepresented in traffic crashes, injuries, and fatalities. As such, understanding the contributing factors that lead to this overrepresentation will allow for the identification of appropriate strategies and countermeasures to address these at-risk road users. The action teams that fall under this emphasis area are:

- Commercial Motor Vehicle Safety
- Motorcycle Safety
- Pedestrian and Bicycle Safety
- Senior Mobility and Safety
- Drivers Age 24 and Younger

Distracted Driving

ENGINEERING INFRASTRUCTURE

One aspect of traffic safety over which the involved stakeholders can exert direct control is the engineering infrastructure. Geometric design elements, traffic control devices, and targeted policies and programs allow for countermeasures aimed at encouraging or discouraging specific behaviors among Michigan road users. Under this emphasis area, guidance as to the state-of-the-art and state-of-the-practice is provided by one action team:

- Traffic Safety Engineering

SYSTEM ADMINISTRATION

Effective system administration is critical to improving traffic safety. In order to identify, diagnose, and treat safety concerns in an efficient manner, a well-integrated framework is required. This framework includes an ability to monitor system performance in near-real time, as well as close collaboration among a network of safety stakeholders from the engineering, education, enforcement, and EMS communities. Statewide efforts in this emphasis area are tasked to two action teams:

- Traffic Incident Management
- Traffic Records and Information Systems

BACKGROUND

The 2013-2016 SHSP includes the creation of a Distracted Driving Action Team, which will result from the reorganization of the Driver Behavior and Awareness Action Team. This narrower focus is expected to allow for more targeted measures aimed at addressing this emerging safety concern.

According to a 2011 study conducted by Michigan Technological University, the statewide cell phone use rate was over 10 percent among Michigan drivers. Among the areas of greatest concern with respect to cell phone use is texting while driving. NHTSA estimates that more than 100,000 drivers are texting at any given daylight moment across the nation. In response to this issue, Michigan adopted a legal ban on texting while driving a motor vehicle in 2010.

Such issues have become particularly timely in light of the fact that text messages were up nearly 50 percent in 2011 compared to 2009, according to the Cellular Telephone Industry Association. In addition to prohibitive legislation, addressing this issue requires a multi-faceted approach including enforcement, engineering, and education.

MDOT has implemented several programs aimed at addressing distracted driving. This includes the recently completed statewide installation of centerline and shoulder rumble strips on high-speed rural non-freeway facilities. MDOT also has implemented other improvements, such as crash attenuators and cable median barrier systems to reduce the severity of drift-off crashes that may be due to driver distraction.

Additional initiatives are under way by motor vehicle manufacturers, who are testing collision avoidance systems and other in-vehicle technologies that have the potential to actively alert potentially distracted drivers.

STRATEGIES

- Conduct effective communication and outreach activities
- Continue to implement effective low-cost roadway countermeasures
- Explore improvements in data collection on driver distractions involved in crashes
- Encourage enforcement of the state's texting law
- Monitor development of new countermeasures and identify those that could be implemented in Michigan
- Monitor national pilot projects related to distracted driving
- Provide recommendations related to distracted driving legislation



Impaired Driving

BACKGROUND

In 2011, Michigan experienced 297 fatal crashes and 319 fatalities relating to alcohol or drug use. Impaired driving crashes were most prevalent among young male drivers, including underage males, as well as in crashes occurring during the weekend.

Michigan has responded to these issues through a combination of judicial and enforcement countermeasure programs. The Michigan Judicial Institute has delivered numerous training sessions to judges, probation officers and court staff on emerging issues in drunk driving, as well as changes in the state's impaired driving laws. This is complemented by 39 specialty courts established in Michigan to deal with hardcore drunk driving offenders.

Supporting initiatives for reducing underage drinking and driving have furthered efforts for improved coordination at the state and local levels. The Michigan Department of Community Health and the Michigan Department of Education have implemented the Michigan Profile for Healthy Youth and continue to survey students through the Youth Risk Behavior Survey.

Funding to support high-visibility enforcement has historically been provided by the Office of Highway Safety Planning (OHSP).

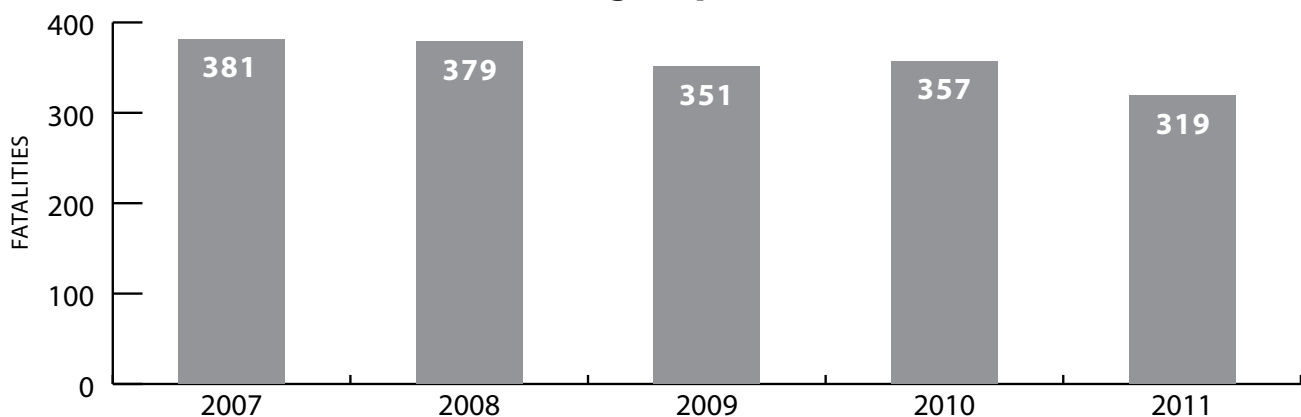
- Explore innovative countermeasures for impaired driving
- Provide enhanced training for all sectors of the criminal justice community
- Provide recommendations related to impaired driving legislation



STRATEGIES

- Continue high-visibility enforcement
- Promote efforts to increase sobriety courts and the use of ignition interlocks
- Support public information and education campaigns

Alcohol or Drug-Impaired Fatalities



Occupant Protection

BACKGROUND

Proper use of passenger restraints is the single most cost-effective and immediate means of reducing death and injury in traffic crashes. A 2011 observation survey showed a 94.5 percent statewide seat belt use rate for front seat occupants of passenger vehicles. However, in fatal crashes, the belt use rate by fatally injured occupants was only 62.0 percent. This shows that, despite unrestrained fatalities decreasing from 249 in 2007 to 196 in 2011, there is still room for improvement in this area.

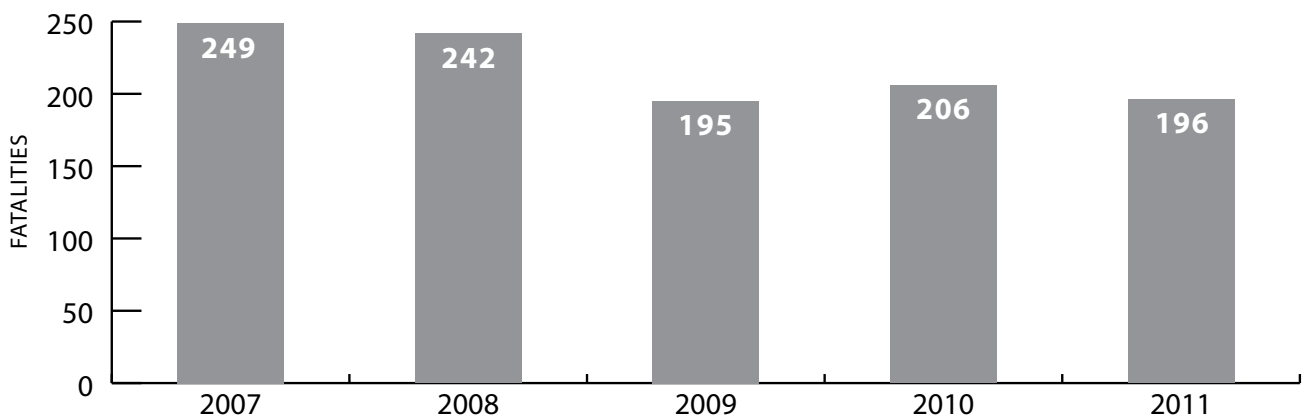
In 2008, Michigan strengthened its child restraint program by introducing a booster seat law covering all children up to age 8 or 4 feet 9 inches in height. OHSP also funds child passenger safety technicians to educate caregivers on restraint use and has worked with Wayne State University to conduct child restraint use surveys. The most recent survey from 2011 reported use rates of 95.0 percent among children under 3 and 43.9 percent among children 4-7 years old.

STRATEGIES

- Continue high-visibility enforcement
- Support public information and education campaigns
- Provide recommendations related to occupant protection legislation
- Implement Michigan's current Child Passenger Safety Strategic Plan
- Evaluate the effectiveness of occupant protection programs



Unrestrained Occupant Fatalities



Commercial Motor Vehicle Safety



BACKGROUND

In 2011, there were 10,511 commercial motor vehicle (CMV) crashes in Michigan. While CMV-involved crashes make up a fairly small percentage of overall crashes at 3.7 percent, they account for 8.2 percent of fatalities. While this figure has been reduced from 12.5 percent in 2007, CMVs are still overrepresented in fatal crashes.

Since 2007, a well-rounded approach has been utilized to address CMV driver performance through education and enforcement. Education initiatives have included several training programs, available through the Michigan Center for Truck Safety, to assist CMV drivers, as well as the replacement of the mobile classroom with a state-of-the-art CMV simulator.

Enforcement activities have included a grant from the FMCSA for planning a Ticketing Aggressive Cars and Trucks (TACT) program. The Michigan State Police (MSP) Commercial Vehicle Enforcement Division (CVED) conducts road patrol activities focused on commercial vehicle enforcement utilizing Special Transportation Enforcement Teams. The MSP CVED was recognized for overall data

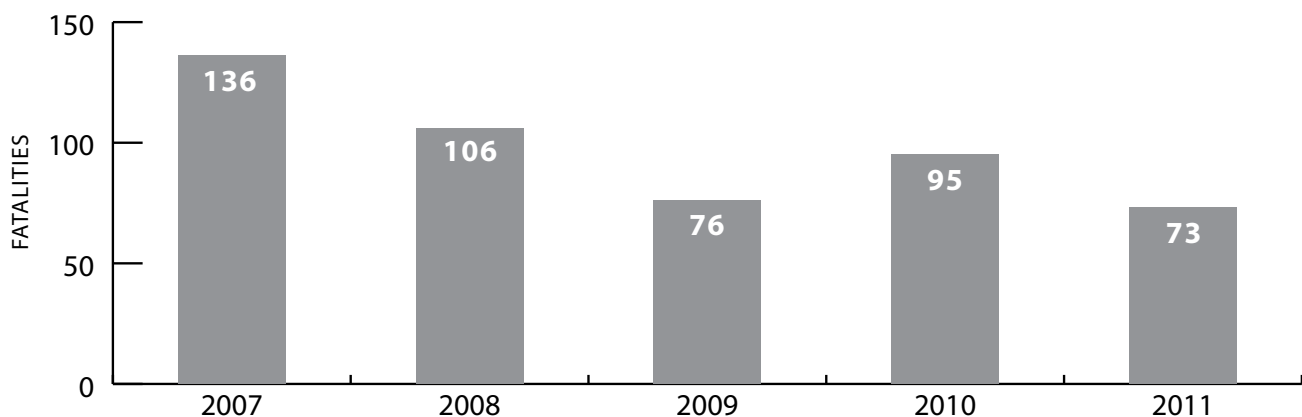
quality during the 2008 Motor Carrier Safety Assistance Program Leadership Conference.

Additional activities include a legislative change that raised the freeway speed limit for CMVs from 55 mph to 60 mph on freeways posted at 70 mph. This contributed to a reduction in speed variance/conflicts from motor vehicles traveling at or above the 70 mph speed limit.

STRATEGIES

- Improve commercial motor vehicle driver performance through education and enforcement
- Educate and inform about the dangers of fatigue-related and distracted driving crashes
- Strengthen commercial drivers license programs
- Increase knowledge on how CMVs and cars can share the road
- Improve maintenance of heavy trucks
- Identify and correct unsafe roadway infrastructure and operational characteristics
- Improve and enhance truck safety data
- Deploy truck safety initiatives, technologies, and best safety practices

Truck or Bus Involved Fatalities



Motorcycle Safety

BACKGROUND

Motorcycle involvement in traffic crashes has steadily decreased from 3,723 in 2007 to 3,104 in 2011. However, despite the reductions in the number of motorcycle-involved crashes, the number of motorcyclist fatalities has remained relatively constant over the same period. In light of recent changes to the motorcycle helmet law, other trends with respect to motorcycle crashes may be expected.

Since the last plan update, several programs have been implemented to improve motorcycle safety. OHSP and the Michigan Department of State have partnered to maintain and expand training efforts, including the Motorcycle Safety Foundation Advanced Rider Course. OHSP has also launched the *Ride Safe to Ride Again* campaign in metro Detroit and Grand Rapids. The campaign educates riders about key skill deficiencies that result in motorcycle crashes.

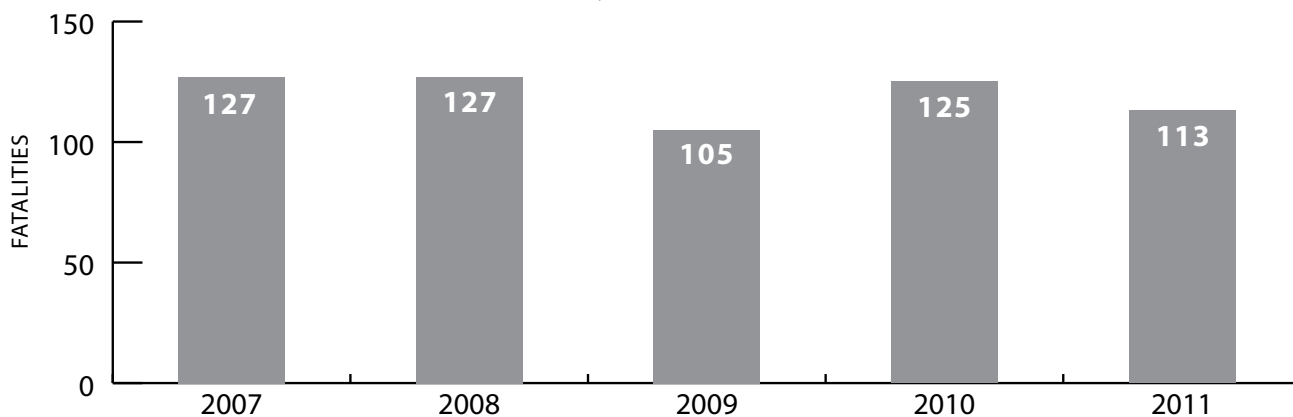
Another aspect of motorcycle safety that has been addressed since the last update is rider visibility, which was

highlighted by several motorcycle safety organizations at recent events.

STRATEGIES

- Provide recommendations related to motorcycle safety legislation
- Encourage motorcyclist safety through training, protective gear, and high-visibility apparel
- Investigate training opportunities for EMS personnel that specifically address the types of crash trauma caused by motorcycle crashes and how to provide optimal on-scene care
- Support public information and education campaigns
- Evaluate the safety impact of engineering countermeasures and maintenance of Michigan roadways to better accommodate motorcyclists

Motorcyclist Fatalities



Pedestrian and Bicycle Safety



BACKGROUND

Since the last SHSP revision, fatalities among nonmotorized users have not followed the overall trends in other areas. In 2011, 142 pedestrians and 24 bicyclists were killed in traffic accidents. Of those fatalities, 57 of the 166 (34.3 percent) involved drugs or alcohol. Also, fatalities were higher among younger and older pedestrian and bicyclists.

Hazardous behaviors by pedestrians and bicyclists that contributed to these crashes included disregarding traffic signals, driver inattention, and impairment. These same types of behaviors were also prominent among crash-involved drivers.

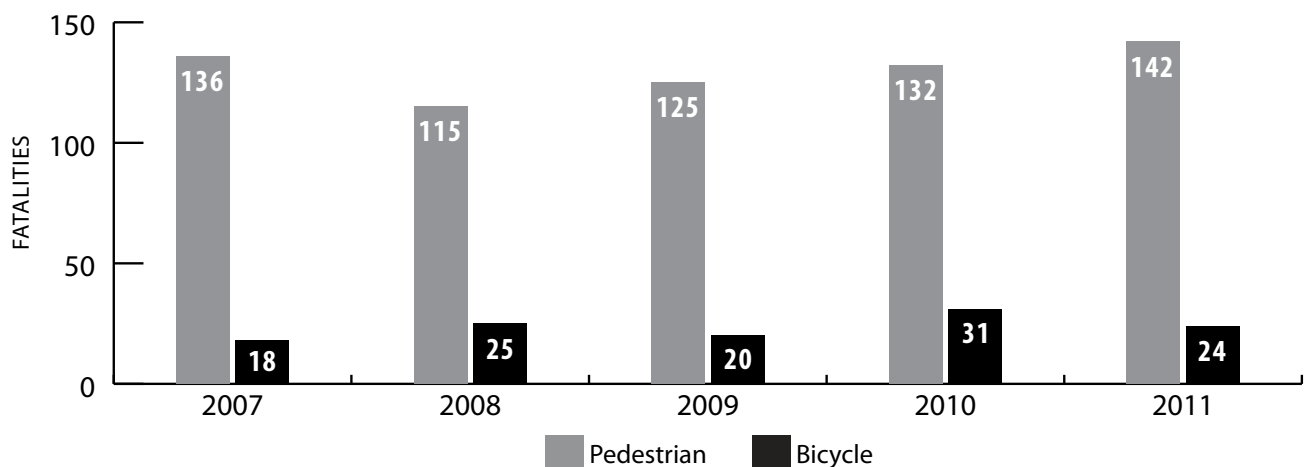
In response to these issues, MDOT has promoted innovation in pedestrian and bicycle safety design by including new and proven safety features in both state and local projects. Examples include the current research into pedestrian hybrid signals and in street signing. The governor has also

signed two pieces of Complete Streets legislation into law in August 2010. On a local level, many cities and townships have passed Complete Streets ordinances or adopted policies or resolutions.

STRATEGIES

- Identify and promote the use of best practices when designing and operating facilities
- Raise awareness of pedestrian and bicycle safety
- Provide recommendations related to pedestrian and bicyclist safety legislation
- Recognize successful pedestrian and bicycle safety initiatives
- Determine focus communities, cities, and agencies for priority assistance

Nonmotorized User Fatalities



Senior Mobility and Safety

BACKGROUND

In 2011, there were 1,430,056 licensed drivers age 65 or above in Michigan, representing 19.5 percent of all licensed drivers. This number has increased from the last SHSP update in 2007 and is expected to continue to increase. Crash data from 2011 show that older drivers are involved in only 16.3 percent of all crashes, yet they account for over 20 percent of fatalities.

While available data show that older drivers have higher seat belt-use rates and lower alcohol-related crash rates, national fatality rates for older drivers mirror those of teen drivers. Furthermore, physiological differences reduce their chances of surviving a crash.

In order to combat this critical safety issue, MDOT has funded a series of senior mobility research projects. The University of Michigan Transportation Research Institute (UMTRI) also has a large portfolio of research related to improving the safe mobility of seniors. Recent research involves several topics, including: self-regulation of driving behavior, drowsy driving among older adults, older driver licensing policy, law enforcement and older drivers, and designing vehicles for an older adult population.

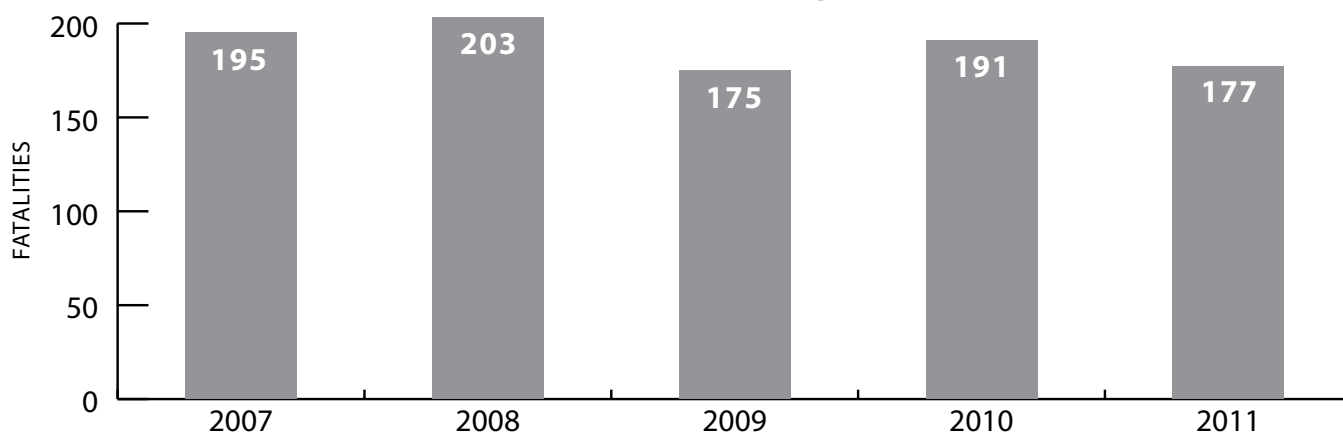
Additional work in this area includes Central Michigan University's Driving Education, Evaluation, and Research Center's research on visual deficiencies of older drivers. Also, the Regional Elder Mobility Alliance along with Transit Riders United have partnered to research unmet senior mobility needs and inform seniors and community leaders on the benefits of enhancing senior mobility.

STRATEGIES

- Promote and sponsor research on senior mobility issues
- Plan for an aging mobility and transportation-dependent population
- Promote the design and operation of Michigan roadways with features that better accommodate the special needs of older drivers and pedestrians
- Develop and/or enhance programs to identify older drivers at increased risk of crashing and take appropriate action
- Encourage senior-friendly transportation options
- Improve communication and coordination among partners at the state, regional and local levels to enhance senior mobility
- Provide recommendations related to senior mobility and safety legislation



Fatalities Drivers Age 65+



Drivers Age 24 and Younger

BACKGROUND

In 2011, drivers ages 16-24 constituted 13.7 percent of all licensed drivers in Michigan. However, young drivers were involved in 33.0 percent of all crashes and 32.0 percent of fatal crashes. These rates are even more pronounced when considering the number of drivers and VMT within this age group.

This age group of drivers was most prone to crashes under winter conditions, a likely reflection of inexperience. Among the most prevalent hazardous actions attributed to young drivers are speeding and failure to yield, which also can be attributed to inexperience or poor risk assessment.

Major accomplishments by the Michigan Legislature led to the approval of changes to the state's graduated driver licensing law, enacting passenger restrictions and strengthening the nighttime driving restrictions. Additionally, as of July 1, 2010, Michigan enacted a texting while driving law, which prohibits all drivers from reading, manually typing, or sending text messages while operating a moving vehicle on a street or highway.

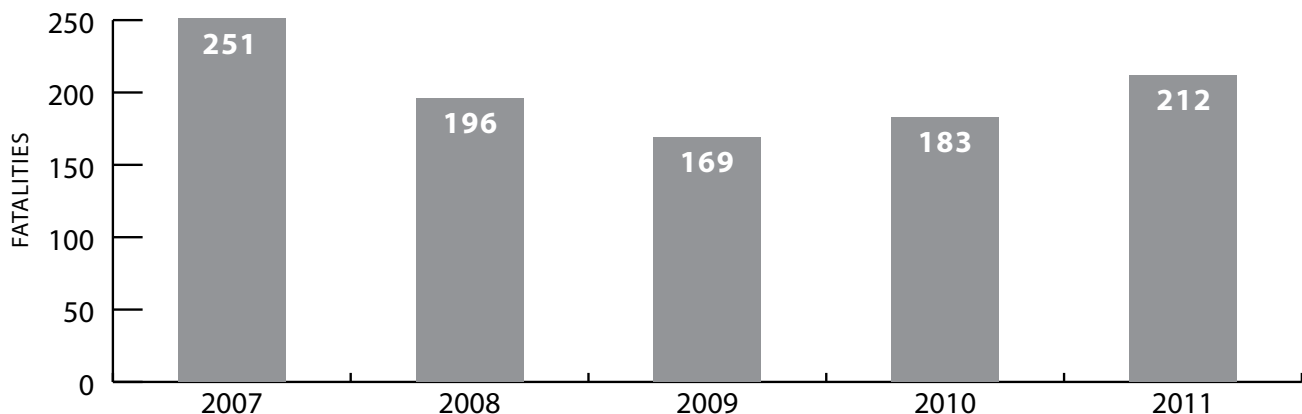
Michigan also developed and implemented a comprehensive driver education curriculum based on national standards from the American Driver and Traffic Safety Education Association. As part of the certification renewal process, driver education instructors in Michigan are now required to complete three hours of approved professional development activities every two years.

STRATEGIES

- Implement or improve graduated driver licensing systems
- Publicize, enforce, and adjudicate laws pertaining to young drivers
- Assist parents in managing their teens' driving
- Improve young driver training
- Employ school-based strategies
- Provide recommendations related to young driver safety legislation



Fatalities Drivers Age 16-24



Traffic Safety Engineering

BACKGROUND

Within the Engineering Infrastructure Emphasis Area, there were initially separate action teams focused upon the areas of intersection safety and lane departure. However, given the degree of overlap that exists between these areas in terms of both the relevant safety issues, as well as the involved safety professionals, a joint working group was developed subsequent to the last SHSP update.

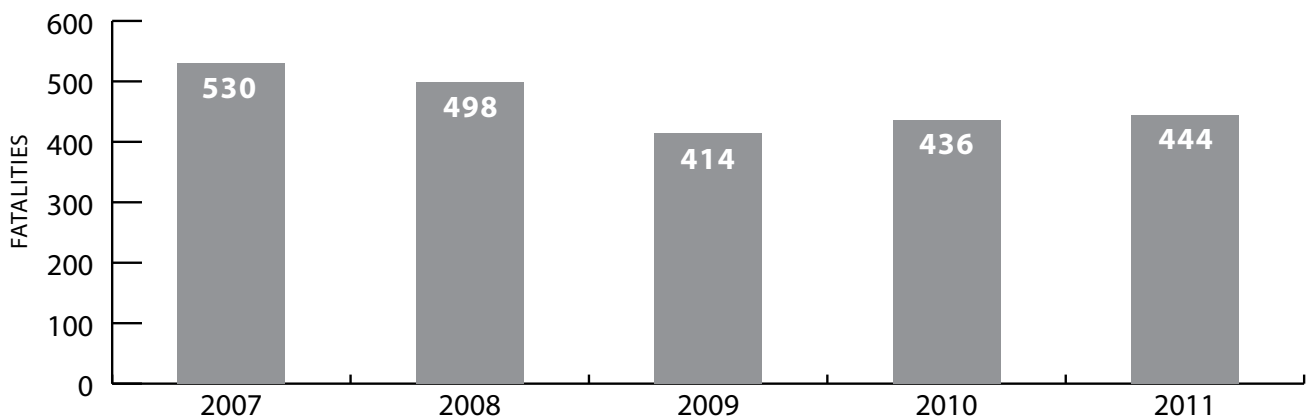
This working group, referred to as the Traffic Safety Engineering Action Team (TSEAT), broadly addresses various engineering-related aspects of traffic safety. The activities involved herein include: the identification of potentially hazardous locations; efforts to facilitate and disseminate research into the causal and contributory effects of roadway

infrastructure on traffic crashes; and the development and implementation of low-cost countermeasures.

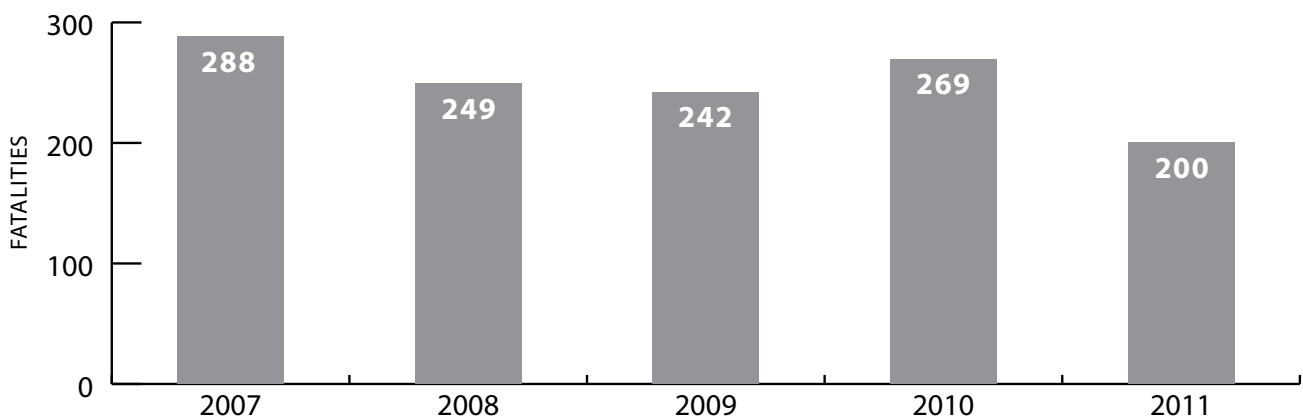
As a variety of unique issues are involved in intersection-related and lane departure crashes, separate assessments were conducted of recent safety trends and countermeasure programs within each subarea. However, given the integrated nature of the TSEAT, a single set of broad strategies has been identified for implementation as a part of the SHSP.

In Michigan during 2011, lane departure crashes accounted for 18.5 percent of crashes and 48.6 percent of fatal crashes. While lane departure crashes comprise nearly half of fatal crashes, this percentage has been reduced from more than 60.0 percent in 2007, as lane departure fatalities decreased from 530 to 444.

Lane Departure-Related Fatalities



Intersection-Related Fatalities



Primary objectives in this area are to identify cost-effective strategies that reduce unintentional lane departure, as well as alert the driver should a departure event occur. A secondary objective is to assist the driver in returning to the travel lane safely and minimize the consequences of departure by creating clear zones along the roadside.

The Lane Departure Action Team created a lane departure crash definition, which added a flag to each crash record in order to simplify lane departure analysis.

There were 82,861 intersection crashes in Michigan during 2011, representing 29.2 percent of all the reported crashes. Such crashes resulted in 200 fatalities (22.5 percent of the statewide total) and 1,958 incapacitating injuries (34.3 percent of the statewide total).

MDOT has sponsored research to investigate roundabouts and converting four-lane roadways to three lanes. Other research has examined dynamic intersection warning devices, ground-mounted flashing beacons, and other low-cost safety improvements.

The identification and analysis of high-risk intersections has also remained a high safety priority. MDOT has begun to use SafetyAnalyst (a software tool) which, along with the *Transparency Report*, has helped to identify the most problematic intersections.

MDOT has also required new standards for signal modernization and continues promoting routine signal re-timing

to further enhance intersection safety. Currently, more than 75.0 percent of trunkline corridors have been retimed, with more scheduled for the immediate future.

Additionally, MDOT has set aside categorical safety funding for local agencies for road safety audits, the installation of centerline and shoulder rumble strips, guardrail upgrades, clear zone improvements, and other projects that target locations that have experienced fatal and incapacitating injury crashes. These projects, as well as other research, such as the non-freeway rumble strip evaluation project, have provided the foundation for deeper understanding of lane departure crash characteristics and prospective countermeasures.

STRATEGIES

- Promote infrastructure safety through outreach and communication
- Identify and resolve safety data issues
- Promote and sponsor research on infrastructure safety
- Broaden the use of currently accepted and proven countermeasures
- Develop, research, and pilot test new countermeasures
- Collaborate with partners to identify and promote opportunities for funding



Traffic Incident Management



BACKGROUND

A new action team in the area of traffic incident management was created as a part of the SHSP update process. Traffic incident management broadly refers to the planned and coordinated multi-disciplinary processes used to detect, respond to, and clear traffic incidents. Quick clearance is necessary so that traffic flow may be restored to pre-incident levels as safely and quickly as possible.

Given the wide range of issues involved with incidents, such as traffic crashes, vehicle breakdowns, and special events, close coordination is required among a diverse range of traffic safety stakeholders. These stakeholders include professionals from fields that include engineering, law enforcement, fire and rescue, towing and recovery, and hazardous materials, as well as the media.

One of the principal concerns related to incident management is secondary crashes, which occur shortly after the occurrence of an incident due to such issues as stopped traffic. While the UD-10 crash report forms do not include a specific field to identify such secondary crashes, national figures estimate that they comprise 16-20 percent of all freeway crashes.

In support of incident management activities, MDOT operates the Southeast Michigan Transportation Opera-

tions Center in Detroit, the West Michigan Transportation Operations Center in Grand Rapids, the Blue Water Bridge Transportation Operations Center in Port Huron, and the Statewide Transportation Operations Center in Lansing. Such centers allow for centralized coordination of incident management processes, as well as support activities like freeway courtesy patrol that assists stranded motorists.

In addition to these efforts, the State of Michigan has recently enacted a law requiring the operator of a crash-involved vehicle to remove the vehicle from the roadway unless a serious impairment of bodily function or death has occurred.

STRATEGIES

- Promote and educate the use of high-visibility apparel for first responders
- Coordinate traffic incident response between all responders
- Conduct training in traffic incident management for all stakeholder groups
- Provide public education on safe, quick clearance and vehicle removal laws

Traffic Records and Information Systems

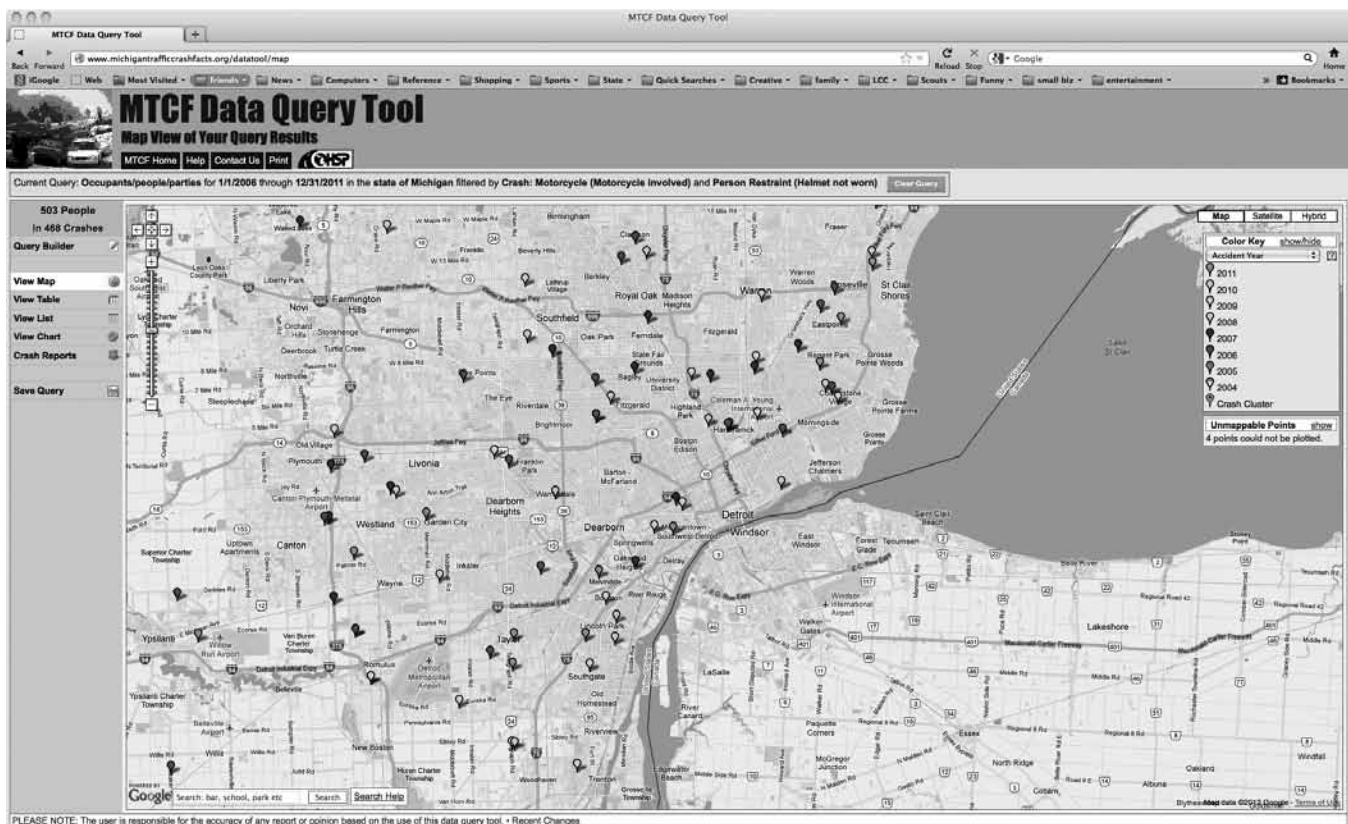
BACKGROUND

Michigan has been recognized for being among the national leaders in this area as evidenced by awards in 2010 and 2012 from the Association of Transportation Safety Information Professionals. Since the last SHSP revision, numerous grants have been awarded to law enforcement agencies for electronic collection and transmission of crash information. During the previous four-year period, 44 agencies were selected to participate. Currently, more than 68.0 percent of law enforcement agencies are collecting and submitting crash data electronically, with nearly 87.0 percent of all crashes being reported electronically as of September 2012.

Along with electronic reporting, further efforts to improve the traffic record system include a review of the UD-10 crash report forms by a multi-disciplinary team. Revisions are currently in the planning stages as a part of a broad data linkage project development to merge data related to crashes, injury surveillance information, and citation information. This is a crucial step for expanding current data collection efforts and further research opportunities. Michigan's traffic records and information systems are of paramount importance to safety-conscious planning efforts.

STRATEGIES

- Improve timeliness and accuracy of data collection, analysis processes, accessibility, distribution and systems
- Convene a multi-disciplinary team to review every element on the UD-10 and make recommendations for changes
- Develop a road map to provide the state with a technical plan to link various traffic records databases together
- Upgrade the Traffic Crash Reporting System to include driver and vehicle records
- Provide highway safety training, technical assistance, funding, and other resources to state and local agencies
- Increase coordination, effective communication, and cooperation among various public and private organizations



Plan Implementation

Despite the successes that have occurred since the last SHSP update in 2008, traffic crashes and the resulting injuries and fatalities continue to be a critical public health concern. A 2011 study estimated that traffic crashes cost Michigan more than \$9 billion annually, highlighting the importance of a systemic approach to improving highway safety. This SHSP update provides the framework for such an approach to proactively assess traffic safety throughout the State of Michigan. This framework is comprised of an organizational structure and a formal management process.

From an organizational standpoint, a hierarchical structure has been established wherein the GTSAC provides oversight at the top level. The GTSAC, represented by 12 commissioners who meet on a quarterly basis, is responsible for guiding Michigan's safety management process. Within the GTSAC structure, four broad emphasis areas have been established to oversee traffic safety initiatives among a network of statewide stakeholders. These include: High-risk Behaviors, At-risk Road Users, Engineering Infrastructure, and System Administration. Within these emphasis areas, there are 11 action teams, each of which is tasked with addressing a targeted set of safety issues. Each action team is responsible for developing its own action plan to address safety issues. Action plans can be found at www.michigan.gov/gtsac. Action teams report to their respective emphasis area chairperson. These chairs then provide reports at quarterly GTSAC meetings.

Functionally, the SHSP identifies prevalent traffic safety issues at an aggregate level. This includes the establishment of statewide goals, as well as the identification of emphasis areas and establishment of action teams. Each action team develops and updates an action plan that outlines the short-term strategies to be implemented by various constituent members. Under this umbrella, prioritization is focused on identifying the most efficient and cost-effective strategies to reduce traffic crashes, and particularly, fatalities and serious injuries. Furthermore, each action team is tasked with monitoring progress on a regular basis so that the process is adaptive to constantly changing conditions.

Ultimately, the GTSAC structure is comprised of a vast network of safety partners, who participate either directly or indirectly in the activities previously described. For example, the following are some of the activities involved within the transportation safety planning process:

- Preparing a *Transparency Report*, which describes at least 5 percent of those highway locations exhibiting the most severe safety needs
- Participating in the management of railroad crossings by supplying funding for various programs and ensuring compliance with authority granted under the provisions of the Railroad Code of 1993
- Coordinating activities with the Motor Carrier Safety Assistance Program, which facilitates the uniform enforcement of federal and state rules and regulations concerning motor carrier safety
- Integrating with the Section 402 Safety Planning Process, which requires each state to have in place a highway safety program in accordance with uniform guidelines promulgated by the Secretary of Transportation
- Considering the needs of tribal communities through the Tribal Technical Assistance Program, a nationwide effort sponsored by the FHWA and Bureau of Indian Affairs
- Conducting systemic safety assessments, including: road safety audits to identify site-specific safety issues, examination of locations that have experienced fatal or severe injuries as a result of traffic crashes, as well as proactive screening of locations that have the potential for such crashes even if there is not a pre-existing crash history

Given the diverse scope of activities involved in the transportation safety planning process, the SHSP provides critical higher-level support and organization to help coordinate these policies and programs.

Plan Evaluation

Ultimately, traffic safety issues continually change and evolve over time. A recent example includes the widespread increase in the use of cell phones, which has compounded concerns related to driver distraction, particularly due to texting. In response to this issue, legislation was passed to ban texting while driving, providing just one example of how the planning process must adapt to changing conditions.

In light of such changes, it is imperative that the SHSP is evaluated and revised on a regular basis in accordance with the new surface transportation bill, *Moving Ahead for Progress in the 21st Century*. The primary measures used to evaluate progress with respect to the SHSP process are the changes in the number of traffic-related fatalities and serious injuries that occur on an annual basis. Michigan currently maintains a traffic records system that is among the best in the country, allowing for timely feedback as to how various traffic safety trends are changing over time. These trends are continually monitored, with the SHSP being updated on a periodic basis.

Given the duration of the SHSP update cycle, each action team is tasked with providing more immediate updates based upon shorter-term changes in traffic crashes, injuries, and fatalities. This is done through annual updates to the action plans, which capture changes in key performance measures, in addition to documenting those policies and programs that have been implemented. In addition to allowing for adaptive responses, these annual updates also provide useful information to the safety stakeholders in Michigan, as well as other states.

With respect to the current emphasis areas and action teams, several gaps exist with respect to evaluating system performance. Specifically, there is no reliable means for evaluating performance within the areas of distracted driving and traffic incident management. The current UD-10 crash report collects information on driver distraction and cell phone use within the driver condition category. However,

as these behaviors are difficult to identify by investigating officers, it is likely that the prevalence of these behaviors are significantly underreported. Similarly, there is no well-defined logic to identify secondary crashes that may be due to traffic incidents. Given these limitations, further research into the prevalence of these behaviors among crash-involved road users, as well as the broader traveling public, is warranted.

In addition to monitoring performance at the statewide level and within each of the emphasis areas and action teams, recent efforts have been initiated to facilitate greater involvement among stakeholders at the local level. To this end, MDOT has begun development of a series of regional safety plans in order to optimize efforts at the local level.

Local involvement was a particular emphasis of the 2013-2016 SHSP update as specific regions of the state were found to experience issues and concerns that were distinct to their geographic locations (e.g., winter driving conditions in the Upper Peninsula and northern Lower Peninsula, and incident management in the more urbanized southeastern and southwestern areas of the state). In some of these areas, traffic safety working groups have been created to address specific issues of concern to local agencies. Some of these groups are developing their own action plans to prioritize short-term strategies at the local level.

Moving forward, as a part of this continuing transportation safety planning process, technical assistance will be provided to the action teams and regional working groups in the form of periodic data analysis.

The SHSP will continue to be reviewed and updated on a regular basis through strategic planning activities that solicit input from all involved constituents across all regions of the state. Ultimately, this process will ensure that Michigan's plan will be kept current and focused on achieving the state's ultimate vision of zero deaths on Michigan roadways.

Safety Partners

Since the development of the SHSP in 2004, many traffic safety advocates across Michigan have continued to be involved in the implementation of the plan. Because of the widespread cooperation, collaboration, and assistance from

traffic safety partners throughout the state, Michigan will continue to make progress, ensuring the safety of all roadway users.







Governor's Traffic Safety Advisory Commission
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